

## ABSTRACT OF THE DISCLOSURE

A touch sensor system and a method of operating the system is provided to detect the touch of a person. An AC power source is provided with an isolated power supply connected to thereto with a DC voltage source output. The DC voltage source is referenced to ground. An impedance limiting circuit is connected to the output of the DC voltage source. An analog-to-digital converter is connected to the impedance limiting circuit. A processor is connected to the analog-to-digital converter with the touch sensor connected to the impedance limiting circuit. The touch sensor is capacitively coupled to the AC power source. The waveform output of touch sensor is monitored and with the waveform output as an OFF reference waveform when the touch sensor is not being touched and the waveform output is stable being calculated and saved. The lack of contact with the touch sensor by the body part is indicated by the system when the waveform output is less than 2 times the OFF reference waveform and contact of the touch sensor by the body part is indicated when the waveform output is more than 2 times the OFF reference waveform.